Amendments to the Specification

Please replace the paragraphs beginning on page 2, line 25 and ending on page 3, line 30 with the following replacement paragraphs:

In one aspect, the present invention provides a system of extracting a visual feature from a volumetric dataset using an approximate volume. The system comprises a display for displaying the volumetric dataset; an input device for defining a selected number of regions distributed in the displayed volumetric dataset, each of the regions containing a cross section of the visual feature therein; an interpolator for generating the approximate volume containing the selected regions, the approximate volume comprising a set of voxels selected from the dataset; an operator for specifying a plurality of voxels not containing the visual feature in the set of voxels to generate a mask; and a volume renderer for using the mask to render the volumetric dataset to extract the visual feature therefrom. The selected number of regions are a subset of the total number of images contained in the volumetric dataset.

In another aspect, the present invention provides a method for extracting a visual feature from a volumetric dataset, using an approximate volume. The method comprises the steps of displaying the volumetric dataset; defining a selected number of regions distributed in the displayed volumetric dataset, each of the regions containing a cross section of the visual feature therein; generating through interpolation, the approximate volume comprising a set of voxels selected from the volumetric dataset; specifying a plurality of voxels not containing the visual feature in the set of voxels to generate a mask; and rendering using the mask on the volumetric dataset to extract the visual feature therefrom. The selected number of regions are a subset of the total number of images contained in the volumetric dataset.

In yet another aspect, the present invention provides an article of manufacture comprising a computer usable medium having a computer readable program code embodied therein for extracting a visual feature from a volumetric dataset using an approximate volume, the dataset representing an image of an object, the computer readable program code in the article of

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manufacture comprising; the computer readable program code configured to cause the computer to display the dataset; the computer readable program code configured to cause the computer to receive input for defining a selected number of regions distributed displayed volumetric dataset, each of the regions containing a cross section of the object therein; the computer readable program code configured to cause the computer to generate through interpolation the approximate volume containing the selected regions, the approximate volume comprising a set of voxels selected form the volumetric dataset; the computer readable program code configured to cause the computer to use the mask for rendering the volumetric dataset to extract the object therefrom. The selected number of regions are a subset of the total number of images contained in the volumetric dataset.

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